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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,279	12/28/2001	Hirobumi Yamaguchi	826.1780	2688

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EXAMINER

DUNCAN, MARC M

ART UNIT PAPER NUMBER

2113

DATE MAILED: 03/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/028,279

Applicant(s)

YAMAGUCHI ET AL.

Examiner

Marc Duncan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-12 and 17 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,13 and 16 is/are rejected.
- 7) ☒ Claim(s) 3,14 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

FINAL REJECTION

Status of the Claims

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Boegel et al. (4,440,697).

Claims 4, 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boegel et al. in view of Kitamorn et al. (6,728,668).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boegel et al. in view of Coyle et al. (6,546,507).

Claims 3, 14 and 15 are objected to.

Claims 6-12 and 17 are allowed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Boegel et al. (4,440,697).

Regarding claim 1:

Boegel teaches a pseudo I/O device (Fig. 1 – “116,” the workstation IOP does I/O device simulation) for use in a pseudo I/O system (Fig. 1 – the examiner considers the

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connection between the CPU and the workstation IOP 116 to be a pseudo I/O system) that is connected to a device to be tested (Fig. 1 and col. 8 lines 50-56), and simulates an actual I/O system (col. 3 lines 29-34), comprising:

a setting unit receiving a file where contents of an error of a pseudo target are defined and set, and setting the file as a setting file (col. 8 lines 53-54, lines 57-59 and lines 63-64. The IOP receives the simulation scripts, which are the setting files of the instant claims, which scripts can be used to force errors), the contents of the file being changeable to accommodate various types of device (col. 7 lines 10-18 and col. 9 lines 9-12. The IOP can use different scripts to simulate different I/O devices, therefore it is changeable to accommodate multiple devices);

a receiving unit receiving a command from the device to be tested (col. 8 lines 57-58);

a pseudo I/O unit processing the command received by said receiving unit according to set contents if the contents corresponding to the command are set when referencing the setting file (col. 8 lines 53-54. The IOP performs an error generating function if the script for the error generation is sent), and performing a normal reply process if the contents corresponding to the command are not set (col. 8 lines 48-49);

a transmitting unit returning data after being processed to the device to be tested at a request source (col. 9 line 27-col. 10 line 26. The cited passage details multiple instances where an input data stream is transmitted from the IOP to the host), where only one pseudo I/O unit is provided in the pseudo I/O system (col. 8 lines 37-38. In the

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example cited by the examiner, only one IOP is doing a simulation, hence only one pseudo I/O unit is present at the time).

Regarding claim 2:

Boegel teaches wherein a file where information of an I/O device to be simulated is defined and set is set as the setting file in col. 7 lines 10-18.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4, 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boegel et al. in view of Kitamorn et al. (6,728,668).

Regarding claim 4:

The teachings of Boegel are outlined above.

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Boegel does not explicitly teach a hardware error generating unit making a hardware error occur in hardware if error contents of the hardware are set in the setting file. Boegel does, however, teach inducing errors in order to facilitate system development in col. 8 lines 50-56.

Kitamorn teaches a hardware error generating unit making a hardware error occur in hardware if error contents of the hardware are set in the setting file in col. 2 lines 3-6.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the error simulation teachings of Boegel with the teaching of generating a hardware error disclosed by Kitamorn.

One of ordinary skill in the art at the time of invention would have been motivated to make the combination because Boegel contains an explicit statement that it is desirable for system development purposes to generate errors in the system with a simulation script. Kitamorn meets the explicitly stated desire of Boegel for system development with the teaching that simulating errors in a processor allows for testing of system design and fault-tolerant recovery capabilities.

Regarding claim 13:

The claim is rejected as the method of using the apparatus of claim 4.

Regarding claim 16:

Boegel teaches a pseudo I/O method simulating an actual I/O device by making a connection with a device to be tested (col. 3 lines 29-34 and col. 8 lines 50-56) comprising:

setting a file having contents of an error of a pseudo target (col. 8 lines 50-56), the contents of the file being changeable to accommodate various types of devices (col. 7 lines 10-18 and col. 9 lines 9-12) and

referencing the file and processing a command from the device to be tested according to set contents in the file when the set contents of the file correspond to the command for simulating the actual I/O device (col. 8 lines 50-64).

Boegel does not explicitly teach where a hardware error is generated when error contents of the hardware are set in the file. Boegel does, however, teach inducing errors in order to facilitate system development in col. 8 lines 50-56.

Kitamorn teaches where a hardware error is generated in col. 2 lines 3-6.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the error simulation teachings of Boegel with the teaching of generating a hardware error disclosed by Kitamorn.

One of ordinary skill in the art at the time of invention would have been motivated to make the combination because Boegel contains an explicit statement that it is desirable for system development purposes to generate errors in the system with a simulation script. Kitamorn meets the explicitly stated desire of Boegel for system development with the teaching that simulating errors in a processor allows for testing of system design and fault-tolerant recovery capabilities.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boegel et al. in view of Coyle et al. (6,546,507).

Regarding claim 5:

The teachings of Boegel are outlined above.

Boegel does not explicitly teach a protocol error generating unit making a set error of a protocol occur in a portion processing the protocol, if contents of the error of the protocol are set in the setting file. Boegel does, however, teach inducing errors in order to facilitate system development in col. 8 lines 50-56.

Coyle teaches a protocol error generating unit making a set error of a protocol occur in a portion processing the protocol in col. 3 lines 16-19 and col. 3 line 44-col. 4 line 10.

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the error simulation teachings of Boegel with the teaching of generating a protocol error disclosed by Coyle.

One of ordinary skill in the art at the time of invention would have been motivated to make the combination because Boegel contains an explicit statement that it is desirable for system development purposes to generate errors in the system with a simulation script. Coyle meets the explicitly stated desire of Boegel for system development with the teaching that injecting bus protocol error conditions as outlined in Coyle allows for design verification without affecting test results and without using cumbersome, expensive external test equipment.

Allowable Subject Matter

Claims 3, 14 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 6-12 and 17 are allowed.

Response to Arguments

Applicant's arguments filed 1/30/06 have been fully considered but they are not persuasive.

Regarding applicant's argument that the contents of the file of Boegel are not changeable, the examiner respectfully disagrees. Boegel allows the scripts to be changed in and out in order to test different types of devices. When a different script is loaded in place of the previous script, the file has clearly been changed, as it is a different script with different file content. A script that is swappable is read on by the instant claim language of a file with changeable contents.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc Duncan whose telephone number is 571-272-3646. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on 571-272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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